

# CLAIMS

What is claimed is:

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1. A method for determining the desirability of programming events, comprising:

receiving metadata describing programming events, the metadata for a programming event comprising goodness of fit scores associated with categories of a classification hierarchy and at least one of descriptive data and keyword data; and

ranking the programming events in accordance with viewing preferences expressed in at least one viewer profile, each of the at least one viewer profiles comprising preference scores associated with categories of the classification hierarchy and at least one keyword, the ranking using the metadata goodness of fit scores and the viewer profile category preference scores to determine rank based on category matching, the ranking further using the at least one of metadata descriptive data and metadata keywords and the at least one keyword of the at least one viewer profile to determine rank based upon keyword matching.

2. The method claimed in claim 1, wherein said ranking is performed such that programming events having keyword matches are ranked higher than programming events not having keyword matches, and programming events not having keyword matches are ranked based upon category match scores.

3. The method claimed in claim 1, wherein said ranking comprises: determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a

goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

4. The method claimed in claim 3, wherein each keyword match score is greater than a greatest possible category match score, and wherein said ranking is based upon said keyword match scores and said category match scores.

5. The method claimed in claim 3, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and wherein the method further comprises determining a programming event recording schedule in accordance with said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

6. The method claimed in claim 3, wherein said programming event metadata further comprises a time of the corresponding programming event, and wherein the method further comprises determining a programming event alert schedule in accordance with said keyword match scores and said category match scores of the programming events and the times of the programming events.

7. The method claimed in claim 6, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

8. The method claimed in claim 1, wherein said ranking comprises:

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determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

9. The method claimed in claim 1, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy,

wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching, and

wherein said ranking is performed such that programming events having qualified keyword matches are ranked higher than programming events having keyword matches, programming events having keyword matches are ranked higher than programming events not having keyword matches and not having qualified keyword matches, and programming events not having keyword matches and not having qualified keyword matches are ranked based upon category match scores.

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10. The method claimed in claim 9, wherein each qualified keyword match score is greater than a greatest possible keyword match score, each keyword match score is greater than a greatest possible category match score, and wherein said ranking is based upon said qualified keyword match scores, said keyword match scores and said category match scores.

11. The method claimed in claim 9, wherein a programming event having a qualified keyword match is ranked relative to other programming events having qualified keyword matches in accordance with the preference score associated with the category of each matched qualified keyword in its corresponding viewer profile.

12. The method claimed in claim 9, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and wherein the method further comprises determining a programming event recording schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

13. The method claimed in claim 9, wherein said programming event metadata further comprises a time of the corresponding programming event, and wherein the method further comprises determining a programming event alert schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times of the programming events.

14. The method claimed in claim 13, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

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15. A device for determining the desirability of programming events, comprising:

at least one processor; and

memory coupled to the at least one processor and having stored therein programming instructions to perform data processing, comprising:

receiving metadata describing programming events, the metadata for a programming event comprising goodness of fit scores associated with categories of a classification hierarchy and at least one of descriptive data and keyword data; and

ranking the programming events in accordance with viewing preferences expressed in at least one viewer profile, each of the at least one viewer profiles comprising preference scores associated with categories of the classification hierarchy and at least one keyword, the ranking using the metadata goodness of fit scores and the viewer profile category preference scores to determine rank based on category matching, the ranking further using the at least one of metadata descriptive data and metadata keywords and the at least one keyword of the at least one viewer profile to determine rank based upon keyword matching.

16. The device claimed in claim 15, wherein said ranking is performed such that programming events having keyword matches are ranked higher than programming events not having keyword matches, and programming events not having keyword matches are ranked based upon category match scores.

17. The device claimed in claim 15, wherein said ranking comprises: determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

22. The device claimed in claim 15, wherein said ranking comprises:  
determining a category match score for each programming event as a  
function of the metadata goodness of fit scores and viewer profile preference

scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

23. The device claimed in claim 15, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy,

wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching, and

wherein said ranking is performed such that programming events having qualified keyword matches are ranked higher than programming events having keyword matches, programming events having keyword matches are ranked higher than programming events not having keyword matches and not having qualified keyword matches, and programming events not having keyword matches and not having qualified keyword matches are ranked based upon category match scores.

24. The device claimed in claim 23, wherein each qualified keyword match score is greater than a greatest possible keyword match score,

each keyword match score is greater than a greatest possible category match score, and

wherein said ranking is based upon said qualified keyword match scores, said keyword match scores and said category match scores.

25. The device claimed in claim 23, wherein a programming event having a qualified keyword match is ranked relative to other programming events having qualified keyword matches in accordance with the preference score associated with the category of each matched qualified keyword in its corresponding viewer profile.

26. The device claimed in claim 23, wherein said programming event metadata further comprises a time and duration of the corresponding programming event, and

wherein said processing further comprises determining a programming event recording schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times and durations of the programming events.

27. The device claimed in claim 23, wherein said programming event metadata further comprises a time of the corresponding programming event, and

wherein said processing further comprises determining a programming event alert schedule in accordance with said qualified keyword match scores, said keyword match scores and said category match scores of the programming events and the times of the programming events.

28. The device claimed in claim 27, wherein the schedule comprises not more than a predetermined number of programming events within a given time period as specified in a viewer profile.

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29. A method of alerting a viewer of upcoming programming events of interest to the viewer, comprising:

receiving metadata describing programming events, the metadata for a programming event comprising goodness of fit scores associated with categories of a classification hierarchy and at least one of descriptive data and keyword data;

ranking the programming events in accordance viewing preferences expressed in at least one viewer profile using said metadata;

determining a programming event alert schedule in accordance with said ranking; and

providing alerts to a viewer in accordance with said alert schedule.

30. The method claimed in claim 29, wherein providing alerts comprises displaying a banner on a video screen describing a programming event in said programming event schedule.

31. The method claimed in claim 30, wherein a color of said banner indicates a viewer profile most closely matched by the corresponding programming event.

32. The method claimed in claim 30, wherein said banner comprises a description of said programming event including a highest scored matched keyword from metadata of said programming event, and a highest scored matched category from said programming event.

33. The method claimed in claim 32, wherein said banner further comprises scores associated with said matched keyword and said matched category.

34. The method claimed in claim 29, wherein providing an alert comprises:

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determining an amount of time in advance of a programming event to display an alert for the programming event from the at least one viewer profile; and

displaying an alert for programming events in said programming event schedule in accordance with said amount of time.

35. The method claimed in claim 29, further comprising displaying said programming event alert schedule in response to viewer input.

36. The method claimed in claim 35, further comprising removing an alert from the alert schedule in response to viewer input.

37. The method claimed in claim 29, wherein determining a programming event alert schedule comprises selecting not more than a predetermined number of highest ranking programming events to occupy a given time period in said schedule.

38. The method claimed in claim 37, wherein said predetermined number and said given period of time are determined from said at least one viewer profile.

39. The method claimed in claim 29, wherein each of the at least one viewer profiles comprises preference scores associated with categories of the classification hierarchy and at least one keyword,

wherein said ranking uses the metadata goodness of fit scores and the viewer profile category preference scores to determine rank based on category matching, and

wherein said ranking further uses the at least one of metadata descriptive data and metadata keywords and the at least one keyword of the at least one viewer profile to determine rank based upon keyword matching.

40. The method claimed in claim 39, wherein said ranking comprises:

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determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

41. The method claimed in claim 39, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy,

wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching.

42. The method claimed in claim 41, wherein said ranking comprises:  
determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile;

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match between the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile; and

determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at

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least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

43. The method claimed in claim 29, wherein providing alerts comprises sending alerts to a communication device of the viewer.

44. A device for alerting a viewer of upcoming programming events of interest to the viewer, comprising:

at least one processor;

a storage device for storing video; and

memory coupled to the at least one processor and having stored therein programming instructions to perform data processing, comprising:

receiving metadata describing programming events, the metadata for a programming event comprising goodness of fit scores associated with categories of a classification hierarchy and at least one of descriptive data and keyword data;

ranking the programming events in accordance viewing preferences expressed in at least one viewer profile using said metadata;

determining a programming event alert schedule in accordance with said ranking; and

providing alerts to a viewer in accordance with said alert schedule.

45. The device claimed in claim 44, wherein providing alerts comprises displaying a banner on a video screen describing a programming event in said programming event schedule.

46. The device claimed in claim 45, wherein a color of said banner indicates a viewer profile most closely matched by the corresponding programming event.

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47. The device claimed in claim 45, wherein said banner comprises a description of said programming event including a highest scored matched keyword from metadata of said programming event, and a highest scored matched category from said programming event.

48. The device claimed in claim 47, wherein said banner further comprises scores associated with said matched keyword and said matched category.

49. The device claimed in claim 44 wherein providing an alert comprises:

determining an amount of time in advance of a programming event to display an alert for the programming event from the at least one viewer profile; and

displaying an alert for programming events in said programming event schedule in accordance with said amount of time.

50. The device claimed in claim 44, said processing further comprising displaying said programming event alert schedule in response to viewer input.

51. The device claimed in claim 50, said processing further comprising removing an alert from the alert schedule in response to viewer input.

52. The device claimed in claim 44, wherein determining a programming event alert schedule comprises selecting not more than a predetermined number of highest ranking programming events to occupy a given time period in said schedule.

53. The device claimed in claim 52, wherein said predetermined number and said given period of time are determined from said at least one viewer profile.

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54. The device claimed in claim 44, wherein each of the at least one viewer profiles comprises preference scores associated with categories of the classification hierarchy and at least one keyword,

wherein said ranking uses the metadata goodness of fit scores and the viewer profile category preference scores to determine rank based on category matching, and

wherein said ranking further uses the at least one of metadata descriptive data and metadata keywords and the at least one keyword of the at least one viewer profile to determine rank based upon keyword matching.

55. The device claimed in claim 54, wherein said ranking comprises:  
determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference scores of matched categories of the programming event, wherein a matched category is a category of the classification hierarchy for which there is a goodness of fit score in the metadata of the programming event and a preference score in the at least one viewer profile; and

determining a keyword match score for each programming event having a keyword match, wherein a keyword match is a match the at least one of descriptive data and keyword data of the programming event metadata and a keyword of the at least one viewer profile.

56. The device claimed in claim 54, wherein the at least one viewer profile further comprises at least one qualified keyword comprising a keyword associated with a category of the category hierarchy,

wherein said ranking further uses the at least one qualified keyword of the at least one viewer profile to determine rank based upon qualified keyword matching.

57. The device claimed in claim 56, wherein said ranking comprises:  
determining a category match score for each programming event as a function of the metadata goodness of fit scores and viewer profile preference

determining a qualified keyword match score for each programming event having a qualified keyword match, wherein a qualified keyword match is a match between a qualified keyword of the at least one viewer profile and the at least one of descriptive data and keyword data of the metadata of a programming event having a goodness of fit score in the category associated with the qualified keyword.

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